

GLOSSARY

ACCLIMATE - To undergo physiological change leading to adaptation to a change in an environmental factor.

ACREAGE - Area of land in acres; an acre is equal to 160 square rods, 4,840 square yards, or 43,560 square feet.

ALKALINE - The opposite of acid, also called basic; having a high pH value and thus a low concentration of hydrogen ions and a high concentration of hydroxide ions.

ALKALINITY - The degree to which a substance is alkaline or basic; the extent to which its pH value lies above the neutral value of 7.2.

ALLOTMENT - An area of land where one or more permittees graze their livestock. Generally consists of public land but may include parcels of private or State lands. The number of livestock and season of use are stipulated for each allotment. An allotment may consist of several pastures or be only one pasture.

ALLUVIAL - Of or relating to river and to stream deposits.

ALLUVIUM - Material, such as rocks, sand silt, or clay, deposited on land by streams.

ALTERNATIVE - A combination of management prescriptions applied in specific amounts and locations to achieve a desired management emphasis or expressed in goals and objectives. One of several policies, plans, or projects proposed for decision making.

AMBIENT - Surrounding, or present in background, as in ambient noise levels, air

temperature, or water temperature.

ANIMAL UNIT MONTH (AUM) - The amount of forage necessary for the sustenance of a 1,000 pound dry cow in maintenance or gestation, or five sheep for 1 month.

ANTICLINE - The arch or crest of a fold in rock strata.

AQUIFER - A water-bearing bed or layer of permeable rock, sand, or gravel capable of yielding water; or the part of a water-drive reservoir that contains the aquifer.

ARCHAEOLOGICAL EVIDENCE - All prehistoric and historic physical evidence of past human activity which can be used to reconstruct lifeways and cultural history of past peoples. These resources include sites, artifacts, environmental data, and all other relevant information and the contexts in which they occur.

ARTHROPOD - An animal with a segmented body and jointed limbs.

ARTIFACT - Any object made, modified, or used by humans, usually moveable. Objects which are recorded as prehistoric or historic artifacts have sociocultural or scientific values and meet the general criterion of being more than 50 years old.

BADLAND - Steep or very steep, commonly non-stony barren land dissected by many intermittent drainage channels. Badland is most common in semi-arid and arid regions where streams are entrenched in soft geologic material. Runoff potential is very high, and geologic erosion is active in such areas.

BERM - A nearly horizontal deposit of beach material accumulated by wave action near the water's edge.

BICARBONATE - A salt or compound containing two equivalents of carbonic acid to one of a base.

BITUMINOUS COAL - The shiny black coal familiarly known as house-hold coal, which according to classification of coals is of higher rank, i.e. has a higher fixed carbon content.

BRACHIOPOD - A marine invertebrate with bivalve dorsal and ventral shells and a pair of tentacled, armlike structures on either side of the mouth.

BROWSE - Tender parts of woody vegetation that are eaten as food by animals; to consume browse. Browsing is distinct from grazing because it refers to eating woody material, whereas grazing is usually restricted to nonwoody plants.

BROWSERS - Animals such as deer that consume woody vegetation.

BRYOZOAN - Any of the small aquatic animals of the phylum Bryozoa that reproduce by budding and form mosslike or branching colonies.

BURROW - A hole dug in the ground by certain small animals to serve as an abode.

CALCAREOUS SOIL - Soil that contains a high concentration of calcium carbonate.

CALCIUM CARBONATE - A naturally occurring form of calcium that is called calcite. Chalk and limestone are both calcium carbonate.

CAMBRIAN - The first geologic time period of the Paleozoic era. The Cambrian period spanned from approximately 590 to 505 million years ago; the system of strata deposited during that time period.

CANOPY - The top layer of a forest or wooded ecosystem consisting of overlapping leaves and branches of trees, shrubs, or both.

CARBONACEOUS - Coaly; pertaining to, or composed largely of carbon.

CHLORIDE - The ionic form of the element chlorine, where the chlorine atom has gained one electron (Cl⁻). Many metals readily form chlorides.

CHRISTMAS TREE - A collection of valves, located at the top of casing, from which tubing in the well is suspended.

CLIMATOLOGY - Science of climate and its causes.

COALBED - A seam or stratum of coal parallel to the rock stratification.

COAL SEAM - A bed of coal in the natural position parallel to other rock strata.

COELENTERATE - Phylum of aquatic, radially symmetrical animals in which the general form of the body is sac-like, with a single opening at the oral end which is surrounded by tentacles and opens into a digestive cavity.

COLLUVIUM - Soil material, rock fragments, or both moved by creep, slide, or local wash and deposited at the base of steep slopes.

COMPRESSOR FACILITY - A permanent

facility which increases the pressure on gas to move it in transmission lines or into storage.

CONGLOMERATE - A rock composed of rounded pebbles cemented together in a matrix of finer material (often sandy); it is thus consolidated gravel or shingle.

CONIFEROUS - Bearing cones; describing or belonging to the large group of trees and shrubs that bear cones and are typically evergreens, with needles for leaves.

CRETACEOUS - The third and latest of the periods included in the Mesozoic Era; also the system of strata deposited in the Cretaceous Period.

CRITICAL HABITAT - Sensitive use areas that are of limited abundance and/or possess unique qualities, thereby constituting irreplaceable, critically necessary habitat.

CULTURAL RESOURCE - Remains of human activity, occupation, or endeavor, as reflected in sites, buildings, artifacts, ruins, etc.

CULVERT - A pipe or other artificially enclosed channel that carries a watercourse below ground level.

CUMULATIVE IMPACTS - The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

DE FACTO - Actually exercising power.

DECIDUOUS - Describing plants that shed their leaves at the end of each growing season.

DEGRADATION - A process which tends to wear down the land surface; it is usually applied to a river, and involves the deepening of its valley by the river.

DELTAIC ZONES - A triangular alluvial deposit at the mouth of a river.

DEPOSITION - The laying down of solid material which has been carried from a distant part of the earth's crust by some natural agency such as rivers, wind, glaciers, and the sea. Deposition is one of the two major processes of earth sculpture, the other being denudation.

DESORB - The opposite of adsorb; the release of materials from being adsorbed onto a surface.

DIRECTIONAL DRILLING - The intentional deviation of a wellbore from vertical to reach subsurface areas off to one side from the drilling site.

DISCHARGE - The flow rate of a fluid at a given instant expressed as volume per unit of time.

DISPLACEMENT - As applied to wildlife, forced shifts in the patterns of wildlife use, either in location or timing of use.

DISTURBANCE - An event that changes the local environment by removing organisms or opening up an area, facilitating colonization by new, often different, organisms.

DIURNAL - Occurring daily; active during daylight.

DIVERSITY - The number of different species, and their relative abundance, in an area.

Diversity is a measure of the complexity of an ecosystem, and often an indication of its relative age.

DRAWDOWN - The regulation of groundwater withdrawal to control the lowering of a water table.

DRILL PAD - A relatively flat work area that contains equipment and facilities used for well drilling and well completion.

DRILLING - The operation of boring a hole in the earth, usually for the purpose of finding and removing subsurface formation fluids such as oil and gas.

DRILLING FLUIDS - The circulating fluid used to bring cuttings out of the wellbore, cool the drill bit, provide hole stability, and pressure control.

DRILLING RIG - The derrick, draw-works and attendant surface equipment of a drilling or workover unit.

ECHINODERM - An exclusively marine phylum of deuterostome animals with a secondarily derived, five-spoked radial symmetry in adults without a head or brain.

ECOSYSTEM - A functioning unit of nature that combines biotic communities and the abiotic environments with which they interact. Ecosystems vary greatly in size and characteristics.

EDDY - A minor reverse flow caused by an obstacle in the primary direction of flow of fluid such as water or smoke.

EMERGENT PLANT - Herbaceous wetland plant whose roots grow in shallow water but whose photosynthesizing structures (stems and leaves) extend above the water surface during the growing season

EMISSION - Waste discharged into the environment by human processes.

ENCROACHMENT - Advancement beyond prescribed limits.

ENVIRONMENTAL IMPACT STATEMENT - A detailed written statement as required by Sec.102(2)(C) of the National Environmental Policy Act.

EPHEMERAL DRAINAGE - Of short duration, as an ephemeral drainage that disappears in summer.

EROSION - The physical removal of rock or soil particles by a transport agent such as running water, wind, glacial ice, and gravity.

ESCARPMENT - An inland cliff or steep slope, formed by the erosion of inclined strata of hard rocks, or possibly as a direct result of a fault.

EVAPORATION POND - An industrial containment area designed to allow briny water to evaporate by using solar energy.

EXCAVATE - To form by hollowing out.

EXTIRPATE - Eradication; the loss or removal of a species from one or more specific areas, but not from all areas.

FAULT - A fracture in the earth's crust along which movement has taken place, and where the rock strata on the two sides therefore do not

match.

FAUNAL - Animals as a whole, especially those of a specific region or period.

FEDERAL LANDS - All lands and interests in lands owned by the U.S. that are subject to the mineral leasing laws, including mineral resources or mineral estates reserved to the U.S. in the conveyance of a surface or non-mineral estate.

FLEDGLING DEPENDENCY PERIOD - The period beginning when the young leave the nest to when they are no longer dependent upon adults for food.

FLOODPLAIN - The relatively flat land adjacent to a river channel that is constructed of unconsolidated sediment deposited by periodic flooding and lateral migration of the river channel.

FLUVIAL - Comprehensive term for river processes.

FORAGE - Food for animals, especially that obtained by grazing or browsing; to look for food.

FORB - Any herbaceous (non-woody) plant having broad leaves, and therefore excluding grasses and grasslike plants. Forb is used especially to distinguish non-grass species when discussing grasslands and prairies.

FRAC (FRACING) - A method of stimulating well production by increasing the permeability of the producing formation. Under extremely high hydraulic pressure, the fracturing fluid is pumped into the formation which parts or fractures it. Proppants or propping agents such as sand or glass beads are pumped into the formation as part of the fracturing job. The proppants become wedged in the open fractures, leaving channels

for oil to flow into the well after the hydraulic fracture pressure is released.

FRIABILITY - A term describing the physical consistency of a soil or the degree to which a soil crumbles when handled.

GRABEN - A valley which has been formed by the sinking of land between two roughly parallel faults; such a valley is long in proportion to its width. Grabens are frequently known as rift valleys or trough faults.

HABITUATE - A behavioral change in which animals can become accustomed to unnatural components in their environments.

HERBACEOUS - Resembling an herb, a green, leafy plant that does not produce persistent woody tissue. Herbaceous plants form the lowest layer of vegetation in most plant communities.

HETEROGENEOUS - Make up of a number of elements different from each other, a mixture of dissimilar ingredients.

HIGH PRIORITY HABITAT - Intensive use areas that are highly important but relatively widely distributed.

HORST - An elevated block of rock between parallel faults which has reached its position either through uplift between faults, or through the sinking of the beds outside the faults.

HYDRAULIC CONDUCTIVITY - The rate of water flow in gallons per day through a cross-section of one square foot under a unit hydraulic gradient, at the prevailing temperature or at 60°F (16°C).

HYDRAULIC FRACTURING - A method of stimulating production by increasing the

permeability of the producing formation.

IMPACT - The results of an action on the environment; the impact may be primary (direct), secondary (indirect), or cumulative.

INJECTION WELL - A well used to inject fluids into an underground formation to increase reservoir pressure.

INTERDISCIPLINARY TEAM (IDT) - A group selected to work within the NEPA process in scoping, analysis, and document preparation. The purpose of the team is to integrate its collective knowledge of the physical, biological, economic, and social sciences and the environmental design arts into the environmental analysis process. Interaction among team members often provides insight that otherwise would not be apparent.

INVERSION - An increase of temperature with height above the earth's surface, being the reverse of the normal situation, in which the temperature falls with height.

KEYSTONE SPECIES - Organisms that play dominant roles in an ecosystem and affect many other organisms. The removal of a keystone predator from an ecosystem causes a reduction of the species diversity among its former prey.

LATITUDE - The angular distance of a point on the earth's surface north or south of the equator, as measured from the center of the earth.

LENTICULAR - Shaped approximately like a double convex lens.

LIMITED VALUE HABITAT - Occasional use areas that are either sparsely populated or that show sporadic or unpredictable use.

LITHIC - Of or relating to stone or lithium.

LITHOLOGY - A description of the visible texture and composition of rock.

LOAM - A rich, permeable soil composed of a mixture of clay, silt, sand, and organic matter.

MESA - A flat, table-like mass, which falls away steeply on all sides. The harder top layers of rock have resisted denudation, and, being practically horizontal, have maintained a uniform surface parallel to the stratification.

METEOROLOGY - The study of the atmosphere, weather, and climate.

METHANE - The simplest hydrocarbon; natural gas is nearly pure methane.

MITIGATE - To lessen the severity.

MITIGATION - Avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree of magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or compensating for the impact by replacing or providing substitute resources or environments.

MOLLUSK - Members of the phylum Mollusca, largely marine invertebrates, including the edible shellfish and some 100,000 other species.

MUDSTONE - A nonfoliated, clay-rich sedimentary rock formed of lithified mud.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) - The federal law established in 1969, which went into effect on January 1, 1970, that 1) established a national policy for the environment, 2) requires federal agencies to become aware of the environmental ramifications of their proposed actions, 3)

requires full disclosure to the public of proposed federal actions and mechanisms for public input into the federal decision-making process, and 4) requires federal agencies to prepare an environmental impact statement for every major action that would significantly affect the quality of the human environment.

NOXIOUS WEED - Officially designated undesirable or invading weedy species generally introduced into an area due to human activity.

OSMOSIS - The process in which a solvent diffuses through a semipermeable membrane, moving toward a solution having greater concentration. Osmosis progresses in the direction of equalizing the concentration on both sides of the membrane.

OUTCROP - Any part of the bedrock that is exposed at the earth's surface.

PALEONTOLOGY - The fossilized flora and fauna as represented in the rock record.

PALEOZOIC - The first of three eras of the Phanerozoic eon in geologic time; the Paleozoic lasted from approximately 590 to 248 million years ago. The term Paleozoic means early life.

PALYNOLOGY - The study of fossil plant spores and the pollen of bogs and lakes. Pollen and spores found in sediments are often the only fossils sufficiently intact to use for correlating fossil layers with geological time.

PALUSTRINE - Inland wetlands such as marshes, wet meadows, and shallow ponds. In the National Wetland Inventory, palustrine includes wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens; and wetlands lacking such vegetation which are less than 20 acres in size, do not have an active wave-formed shore, and are less than 6 feet deep at low water.

PARTICULATES - Small particles in the air that are generally considered pollutants.

PEDIMENT - An erosional surface of low relief, often covered with a veneer of gravel, forming at the foot of a mountain range.

PERENNIAL - A plant whose life cycle lasts longer than two years. The tops of herbaceous perennials die down at the end of the growing season, buds, roots, and underground portions persist.

PERMEABILITY - The extent that a substance is open to passage or penetration, especially by fluids.

pH - The negative logarithm of the concentration of the hydrogen ion in gram atoms per liter, used in expressing both acidity and alkalinity. pH values range from 0 to 14, with 7 indicating neutrality, numbers less than 7 increasing acidity, and numbers greater than 7 increasing alkalinity.

PHYSIOGRAPHIC - Relating to geographical features and land forms.

PREHISTORIC SITE - Archaeologic sites associated with American Indians and usually occurring before contact with Europeans.

PRIMARY RANGE - Areas where the majority of livestock grazing is concentrated, due to high forage production, easy accessibility, nearby water sources, or other reasons.

PROPAGATION - Reproduction of a plant or an animal, especially intentional multiplication or increase of stocks carried out by humans.

PROPOSED ACTION - In terms of NEPA, the project, activity or action that a Proponent intends to implement or undertake and which is the subject of an environmental analysis.

PROTOZOAN - Originally referred to a phylum of single-celled, eukaryotic animals, now placed in the kingdom of Protista.

QUARRY - An open bedrock area where ore or building stone is extracted.

QUARTZOSE SANDSTONE - Any sandstone composed of at least 95 percent clear quartz grains and less than 5 percent feldspar grains and cement matrix.

QUATERNARY - The younger of the two geologic periods or systems in the Cenozoic Era.

RADIOCARBON - Any radioactive isotope of the element carbon. Radiocarbons undergo radioactive decay, which is measured and applied as an absolute dating technique.

RADIOTELEMETRY - The presentation of data at a location remote from the source of the data, using radio-frequency electromagnetic radiation as the means of transmission.

RAPTOR - A bird of prey; a group of carnivorous birds consisting of eagles, hawks, falcons, kites, vultures, and owls.

RARE OR SENSITIVE SPECIES - Species which have no specific legal protection under the Endangered Species Act as threatened or endangered species, but which are of special concern to agencies and the professional biologic community due to low populations, limited distributions, on going population decline, and/or human or natural threats to their continued existence.

RECIPROCATION - A technique performed while cementing, whereby casing is moved up and down the wellbore in order to move the cement slurry uniformly around the wellbore to eliminate channeling and provide an effective cement bond on the casing and formation wells.

RECLAMATION - Rehabilitation of a disturbed area to make it acceptable for designated uses. This normally involves regrading, replacement of topsoil, revegetation and other work necessary to restore it for use.

RENEWABLE ENERGY - Sources of energy that are not depleted by consumption, such as solar and wind energy.

RESERVE PIT - A mud pit in which a reserve supply of drilling fluid is stored.

RESERVOIR - A natural underground rock formation that retains water, oil, or natural gas.

RESIDUUM - (residual soil material)
Unconsolidated, weathered, or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

REVEGETATION - The re-establishment and development of self-sustaining plant cover. On disturbed sites, human assistance will speed natural processes by seed bed preparation, reseeding, and mulching.

RICHTER SCALE - A measure of the energy of seismic waves generated by an earthquake.

RIGHT-OF WAY - The legal right for use, occupancy, or access across land or water areas for a specified purpose.

RIMROCK - A top layer of resistant rock on a plateau outcropping with vertical or near vertical walls.

SALINE - Containing common salt or any of the salts of alkali metals or magnesium.

SALINITY - Degree of saltiness; soils with high salinity cannot support plant growth.

SATURATED - The point at which one substance has incorporated as much as possible of another substance; the point of maximum possible concentration.

SCOPING - A term used to identify the process for determining the scope of issues related to a proposed action and for identifying significant issues to be addressed.

SEDIMENT - Soil or mineral transported by moving water, wind, gravity, or glaciers, and deposited in streams or other bodies of water, or on land.

SEDIMENTATION - The deposition of

sedimentary particles, which includes gravity settling, chemical precipitation, and biogenic accumulation.

SEISMIC ACTIVITY - Pertaining to an earthquake or earth vibration, including those that are artificially induced.

SEMI-ARID - Describing climates that are not as dry as desert, having light rainfall (usually 10 to 20 inches) capable of sustaining some grasses and shrubs but not enough for woodland.

SHALE - Any fine-grained clastic sedimentary rock composed of clay and silt-sized particles.

SILAGE - Cut grass, cornstalks, or other plants that are harvested while green and stored in silos or concrete bunkers to undergo fermentation; provides important winter feed for cattle.

SILTSTONE - A sedimentary rock composed of a least two-thirds silt-sized particles; a mudstone containing more silt than clay.

SLOPE - The degree of deviation of a surface from the horizontal.

SOLVENT - Any substance used to dissolve another substance (the solute) to form a solution.

STRATA - An identifiable layer of bedrock or sediment; does not imply a particular thickness of rock.

SUBALPINE - Describing the region, the climate, the vegetation, or all three found just below alpine regions, usually on mountainsides at 1300 to 1800 meters in elevation. Subalpine vegetation is that just below treeline, often dominated by pine or spruce trees.

SUBSTANTIAL VALUE HABITAT - Areas used regularly but at moderate levels, and receiving little or not concentrated use.

SUMMER RANGE - That part of the home range of a species that is not considered winter range, including what has traditionally been known as spring and fall transitional ranges.

SURFACTANT - Any compound that reduces the surface tension of liquids, increasing its wetting ability and spreadability.

SYNCLINE - A sag in the rock strata in which the layers bend upward away from the fold axis. The oldest layers in an eroded syncline are exposed farthest from the fold axis.

TELEMETRY - Transmitting the readings of instruments to a remote location by means of wires, radio waves, or other means.

TEMPORAL PERIOD - Changes that occur over a period of time, such as on a daily, hourly, or seasonal basis.

THERMAL COVER - Vegetation used by big game to help maintain comfortable body temperatures with minimal energy expenditure.

THREATENED OR ENDANGERED SPECIES - Animal or plant species that are listed under the Federal Endangered Species Act of 1973, as amended, or under the Colorado or New Mexico Endangered Species Act.

THRUST FAULTS - A type of low-angle reverse fault in which the hanging wall overrides the footwall along a dip-slip face that is angled at less than 45 degrees. Thrust faults are typical in regions of tectonic convergence.

TOPOGRAPHY - The features of the earth, including relief, vegetation, and waters.

TOTAL DISSOLVED SOLIDS - A term that describes the quantity of dissolved material in a sample of material.

TRIBUTARIES - Streams that feed or flow into or join a larger stream or a lake.

UNDERSTORY - The lowest layer of trees in a forest; the layer between the overstory tree layer and the shrub layer.

VEGETATION - All of the plants growing in and characterizing a specific area or region; the combination of different plant communities found there.

VISUAL ENVIRONMENT - The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

VISUAL SENSITIVITY LEVELS - An index of the relative degree of user interest in scenic quality and concern and attitude for existing or proposed changes in the landscape features of an area in relation to other areas in the planning unit.

WATERSHED - The total area of land surface from which an aquifer or river system collects its water.

WELL COMPLETION - The final sealing off of a drilled well (after drilling apparatus is removed from the borehole) with valving, safety, and flow-control devices.

WELLBORE - The hole made by the drilling bit.

WELLHEAD - The equipment used to maintain surface control of a well. It is formed of the casing head, tubing head, and Christmas tree. Also refers to various parameters as they exist at the wellhead, such as wellhead pressure, wellhead price of oil, etc.

WELLPAD - Relatively flat work area that

contains equipment and facilities used for oil/gas production.

WETLANDS - Those areas that are inundated or saturated with surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

WINTER RANGE - The place where migratory (and sometimes nonmigratory) animals congregate during the winter season.